

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



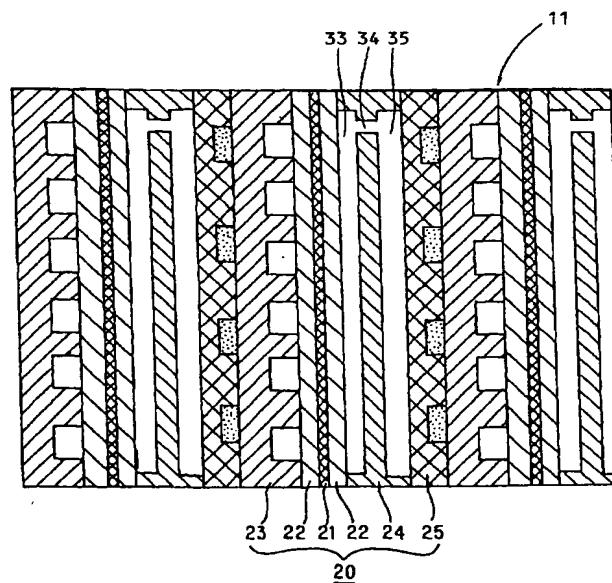
(43) International Publication Date
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number
WO 2004/006368 A2

- (51) International Patent Classification⁷: **H01M 8/00**
- (21) International Application Number: **PCT/JP2003/006683**
- (22) International Filing Date: **28 May 2003 (28.05.2003)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
2002-192912 2 July 2002 (02.07.2002) **JP**
- (71) Applicants (for all designated States except US): **NIS-SAN MOTOR CO., LTD.** [JP/JP]; 2, Takara-cho, Kanagawa-ku, Yokohama-shi, Kanagawa 221-0023 (JP). **IWASAKI, Yasukazu** [JP/JP]; 1-1175-40, Mutsukawa, Minami-ku, Yokohama-shi, Kanagawa 232-0066 (JP).
- (72) Inventor; and
(75) Inventor/Applicant (for US only): **YOSHIZAWA, Koudai** [JP/JP]; 2-92-6-305, Uragou-cho, Yokosuka-shi, Kanagawa 237-0062 (JP).
- (74) Agent: **GOTO, Masaki**; Shoyu-Kaikan, 3-1, Kasumi-gaseki 3-chome, Chiyoda-ku, Tokyo 100-0013 (JP).
- (81) Designated States (national): **CN, KR, US.**
- (84) Designated States (regional): **European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).**
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **POLYMER ELECTROLYTE FUEL CELL**



(57) Abstract: A fuel cell includes a membrane electrode assembly 21 and a bipolar plate 24 disposed outside the membrane electrode assembly 21. The bipolar plate 24 is porous, and has first gas passages 33 formed on the top surface through which gas is passed, second gas passages 35 formed on the undersurface through which gas is passed, communicating passages 34 which allow the first gas passages 33 and second gas passages 35 to communicate, a gas inlet 31 connected to one of the first gas passages 33 and second gas passages 35 for supplying gas, and a gas outlet 37 connected to the other of the first gas passages 33 and second gas passages 35 for discharging gas.